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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,339	11/01/2001	Jack A. Denton	21-1155	2480

7590 03/18/2003

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[REDACTED] EXAMINER

ZANELLI, MICHAEL J

[REDACTED] ART UNIT

[REDACTED] PAPER NUMBER

3661

DATE MAILED: 03/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/040,339	DENTON, JACK A.
	Examiner	Art Unit
	Michael J. Zanelli	3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01 November 2001.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-9,11-16,25-31,36-41,43-45 and 47-52 is/are rejected.
- 7) Claim(s) 10,17-24,32-35,42,46 and 53 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 01 November 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 . | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

1. This application has been examined. Claims 1-53 are pending.
2. The IDS filed 11/1/01 has been considered.
3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the elements recited in claims 25-31 and 47-50 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The disclosure is objected to because of the following informalities:
 - A. On page 11, line 5 item "61" not shown. At line 19, card labeled "40" not "41" in Fig. 7.
 - B. Page 12, line 24 no item "30", "31" or "32" shown in the drawings.
 - C. Page 13, line 21 no item "50" shown in the drawings.

Appropriate correction is required.

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims 25-30 recite a laser transceiver; however, the specification does not include this subject matter.

6. Claims 1-36 and 46 are objected to because of the following informalities:
 - A. As per claims 1 and 5, at line 1 delete "the". At line 3 change "an" to --a--.

- B. As per claim 24, insert comma after “unit” at line 1.
- C. As per claim 29, at line 10 change “pairs” to --paired--.
- D. As per claim 46, at line 4 change “or” to --and--.
- E. All claims depending from an objected base claim are also objected to as containing the same deficiencies.

Appropriate correction is required.

7. Claims 25-31, 36 and 47-50 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for determining and recording the position of moving equipment, does not reasonably provide enablement for determining volume of material using ultrasound and laser transceivers as claimed. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. Pages 12-13 briefly describe using ultrasound to determine volume of material whereas use of lasers is not discussed at all. No drawings are provided to aid in determining how the transceivers are arranged in order to produce the volume information. At best the ultrasound transceivers provide a distance measurement from the ultrasound transmitter to the material. The specification lacks any teachings as to how this is translated into an indication of volume of material moved. Further, the specification lacks any teachings as to how the weight of the material being moved is produced. Such teachings are required in order to enable one of ordinary skill in the art to make and use the claimed invention.

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-6, 11, 14, 37-40, 44, 45, 51 and 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Henderson et al. (5,944,764).

A. As per claims 1, 5 and 37, Henderson ('764) discloses a system and method for monitoring the work cycle of a material moving machine (Abs.). Position measurements of the machine are taken on a periodic basis (col. 3, lines 44-50) and recorded in a database which correlates the movements of the machine over an actual work site with a dynamic model of the work site (Fig. 1; col. 7, lines 5-22). A data processing means onboard the machine produces a graphical display of the work and enables one to analyze the work performed by the machine (col. 8, lines 2-13). Operation of the machine may be triggered based on input from the user via the transmission shift (col. 6, lines 45-48).

B. As per claims 2-4, as noted above relative to claim 5 which is a combination of claims 1-4.

C. As per claim 6 and 38-40, as above wherein the position information may be provided by a GPS receiver (col. 3, lines 44-50).

D. As per claims 11, 14, 44, 45, 51 and 52, as above wherein the data processing means (i.e., computer) onboard the machine generates a graphical representation of the work site as the machine operates thereon. As the machine moves back and forth, a swath is generated indicating what material has been moved relative to the material that has not been moved (Fig. 1; col. 7, lines 5-9; col. 6, lines 40-48; col. 8, lines 3-14).

10. Claims 1-6, 11, 14, 37-40, 44, 51 and 52 are further rejected under 35 U.S.C. 102(b) as being anticipated by Henderson et al. (6,114,993).

A. Henderson ('993) discloses essentially the same system as Henderson ('764) above, but includes providing the work cycle information to a site manager for analysis (col. 3, lines 62-67). See also Fig. 2, Fig. 6 and col. 9, lines 14-25.

11. Claims 1-6, 11, 14, 37-40, 51 and 52 are rejected under 35 U.S.C. 102(b) as being anticipated by Gudat et al. (5,646,844).

A. As per claims 1, 5 and 37, Gudat discloses a system for real-time monitoring of material moving equipment in which the position of the equipment is determined and used to update a database representing the work site (col. 2, lines 21-28). The database is a geographical model of the site as it is altered by the equipment such that the work performed by the equipment can be analyzed (Fig. 6 and 8; col. 2, lines 43-46). A database can be located on each machine or at a central location (col. 5, line 60 to col. 6, line 9).

B. As per claims 2-4, as noted above relative to claim 5.

C. As per claims 6 and 38-40, as above wherein the position information may be provided by a GPS receiver (col. 5, lines 22-24).

D. As per claims 11, 14, 51 and 52, as above wherein the data processing means (i.e., computer) onboard the machine generates a graphical representation of the work site as the machine operates thereon.

12. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Hagenbuch (4,831,539).

A. As per claims 1 and 2, Hagenbuch discloses a system for monitoring the work cycle of a material moving machine. Position information is correlated with movement of material in order to generate work performance indications (Abs.). Information is stored in a storage device (col. 7, lines 43-46) and a user input device is provided for entering vehicle status information (col. 6, lines 34-37).

13. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Wright et al. (6,084,542).

A. As per claim 1, Wright discloses a device for monitoring moveable objects, such as a vehicle (Abs.; col. 4, lines 42-48). The data can be downloaded from a storage card to a computer for analyzing information correlated with position of the vehicle as it traverses a route (col. 3, lines 41-44).

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 7-9, 12, 13, 15, 16, 41 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henderson et al. (5,944,764) in view of Wright et al. (6,084,542).

A. As per claim 7, the claimed invention recites a housing that contains the GPS receiver and antenna. Although Henderson ('764) does not explicitly describe the physical construction of the position determining equipment, one of ordinary skill in the

art would have found it obvious to construct the position determining equipment of Henderson et al. in such a manner as to protect it from the harsh mining environment.

B. As per claims 8, 9, 12, 13, 15, 16, 41 and 43, Henderson describes periodically recording the position of the material moving machine as it traverses a work site and updates a topographical model accordingly. Henderson is silent as to how the stored information is downloaded from the machine. Wright discloses a data recorder in which a removable storage card can be used to transmit the information to an external computer for analysis (Abs.). One of ordinary skill in the art would have found it obvious to use the teachings of Wright as a means of downloading the altered work site model of Henderson to an external computing device for analysis. Wright specifically suggests using PCMCIA cards or other well-known storage devices for this purpose (col. 5, lines 31-35).

16. Claims 10, 17-24, 32-35, 42, 46 and 53 are distinguishable over the prior art of record.
17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited patents represent the general state of the art.
18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Zanelli whose telephone number is (703) 305-9756. The examiner can normally be reached on Monday-Thursday 5:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William A. Cuchlinski can be reached on (703) 308-3873. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and (703) 305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

/mjz
March 11, 2003


MICHAEL J. ZANELLI
PRIMARY EXAMINER